

SECTION 16195

ELECTRICAL IDENTIFICATION

NOTE: Edit this Section to match project requirements.

PART 1 GENERAL

1.1 SECTION INCLUDES

NOTE: Edit to match project requirements.

Furnish and install electrical identification in accordance with the requirements of this Section and as indicated on the Drawings:

1. Equipment code tags to identify each piece of electrical equipment.
2. Nameplates of the following three categories:
 - a. Category I, Circuit Directory Information: Nameplates shall contain circuit number, piece of equipment being served or being served from, location of equipment served or being served from, voltage, number of phases, and number of wires.
 - b. Category II, General or Operational Information: Nameplates shall contain basic instructions or specific operating procedures such as special switching procedures for a load transfer scheme.
 - c. Category III, Emergency Operations: Nameplate shall contain information concerning emergency shutdown procedures for room, equipment, and building isolation in event of fire or other emergency.
3. Label on each light switch and receptacle outlet indicating circuit number, panelboard and voltage.
4. Wire markers on power, control and communication circuit wires.
5. Voltage markers on switchgear, panelboards, motor control centers, safety switches and conduits.
6. Warning signs on transformers, switchgear, panelboards, motor control centers, and safety switches.
7. Marking of NFPA 70 required clear working space at electrical equipment.
8. Underground warning tape above underground conduits.
9. Identification signs for emergency system components.

PART 2 PRODUCTS

NOTE: Edit to match project requirements.

2.1 EQUIPMENT CODE TAGS

- A. Furnish equipment code tags as specified below with lettering as scheduled on the Drawings.
- B. Coordinate equipment code tag schedule with equipment numbering scheme provided by Contract Administrator.
- C. Provide code tags with black letters on yellow background with 2 in. by 3 in. dimensions.
- D. Provide lettering as follows:
 - 1. Size: 48 point.
 - 2. Spacing:
 - a. 1/4 inch from top and bottom.
 - b. 1/2 inch between lines.
- E. Provide tags made of one of the following materials:
 - 1. Type 1 (Indoor Applications Only):
 - a. Plastic adhesive tape with dry transfer letters covered with protective coating of clear plastic spray.
 - b. Manufacturer: 3M "Scotchcal", No. 3485 Saturn Yellow
 - 2. Type 2:
 - a. Two-ply plastic nameplate with letters engraved through yellow surface showing black core.
 - b. Provide UV stabilized material for outdoor applications.
 - c. Manufacturer: Seton Nameplate Corp., "Setonply" for indoor applications, "Setonflex" for outdoor applications.

2.2 EQUIPMENT NAMEPLATES

- A. Furnish equipment nameplates as specified below with lettering as scheduled on the Drawings.
- B. Coordinate equipment nameplate schedule with equipment numbering scheme provided by Contract Administrator.
- C. Provide nameplates made of one of the following materials:
 - 1. Type 1 (Indoor Applications Only):
 - a. Vinyl plastic with photo-processed typewritten letters.
 - b. Manufacturer: Thomas & Betts, Vinyl E-Z-Code Special Markers

2. Type 2:

- a. Two-ply plates with letters engraved through surface color showing core color.
- b. Use UV stabilized material for outdoor applications.
- c. Manufacturer: Seton Nameplate Corp., "Setonply" for indoor applications, "Setonflex" for outdoor applications.

D. Provide lettering as follows:

- 1. Size: 10 point minimum.
- 2. Spacing:
 - a. 1/4 inch from top.
 - b. 1/8 inch from bottom.
 - c. 1/16 inch between lines.

E. Provide colors as follows:

- 1. Category I nameplates: White letters on blue background.
- 2. Category II nameplates: White letters on black background.
- 3. Category III nameplates: White letters on red background.

F. Dimensions shall be as follows:

- 1. Category I nameplates: 1 3/16 inch by 2 1/2 inch minimum.
- 2. Category II nameplates: As required for instructions.
- 3. Category III nameplates: As required for emergency instructions.

2.3 OUTLET LABELS

- A. Furnish a typewritten or laser printed label for each switch and receptacle outlet indicating circuit number, panelboard and voltage.
- B. Provide labels of the following materials:
 - 1. 2 inch by 0.75 inch self-adhesive white vinyl plastic film labels.
 - 2. Manufacturer: Electrovert, Model EDP-02
- C. Provide black, 10 point size lettering.

2.4 WIRE MARKERS

- A. Provide wire markers for power, control, instrumentation, alarm and communication circuit wires.
- B. Furnish split sleeve or self-laminating adhesive type wire markers.
- C. Locate a wire marker on each conductor at switchgear, panelboards, pull boxes, outlet and junction boxes, and each load connection.

- D. Provide lettering on wire markers as follows:
 - 1. Power and Lighting Circuits: As-built branch circuit or feeder circuit number.
 - 2. Control Circuits: As-built control wire number indicated on schematic and interconnection diagrams on Drawings or equipment manufacturer's wiring diagrams.
- E. Manufacturer: LEM Products, Inc, Model "Snap-On Markers", "SLWT" or "SLTS" self-laminating adhesive markers.

2.5 VOLTAGE MARKERS

- A. Furnish voltage markers for transformers, conduits, switchgear, panelboards, motor control centers, safety switches, pull boxes and cabinets.
- B. Provide flexible pressure sensitive vinyl voltage markers that conform to OSHA regulations.
- C. Provide voltage markers with 9 inch X 2-1/4 inch orange background and black letters. Comply with OSHA regulations.
- D. Provide voltage markers with lettering as follows:
 - 1. 480 Volt System: 480 VOLTS
 - 2. 208 Volt System: 208 VOLTS
 - 3. 15kV System: 13200 VOLTS
 - 4. Fire Alarm System: FIRE ALARM
 - 5. Telephone/Data System: TELEPHONE
- F. Manufacturer: LEM Products, Inc, Model LVM

2.6 WARNING SIGNS

- A. Furnish warning signs for transformers, switchgear, panelboards, motor starters, motor control centers, safety switches and pull boxes.
- B. Use flexible warning signs that conform to OSHA Danger and Caution specifications.
- C. Provide minimum 10 inches X 7 inches warning signs.
- D. Provide warning signs with lettering as follows:
 - 1. Low Voltage Systems: "DANGER - UNAUTHORIZED PERSONS KEEP OUT"
 - 2. Systems over 600 Volts: "DANGER - HIGH VOLTAGE - KEEP OUT"
- E. Materials:
 - 1. For indoor applications use flexible, pressure sensitive, vinyl signs.
 - 2. For outdoor applications use signs that are silk screened on 0.060 inch thick plastic and overcoated with UV resistant plastic film.
- E. Manufacturer: Seaton Name Plate Co, Style No. 259-PSPL and 265S-PSPL (indoors), FSS16 and FSS10 (outdoors).

2.7 FLOOR MARKING TAPE

- A. Use white and black tape, in stripes or checkers, for marking NFPA 70 clear working space at electrical equipment.
- B. Provide tape that is 2 inch wide pressure sensitive vinyl with a clear protective overlamine.
- C. Manufacturer: Seaton Name Plate Co, Style No. WSB or WBC

2.8 UNDERGROUND WARNING TAPE

- A. Furnish underground warning tape for underground cables, conduits and duct banks.
- B. Use 6 inch wide, 0.004 inch thick, polyethylene underground warning tape black lettering and the following background colors:
 - 1. Electric: Red
 - 2. Telephone/Data: Orange
- C. Provide lettering that indicates the type service buried below.
 - 1. Electric: "CAUTION ELECTRIC LINE BURIED BELOW"
 - 2. Telephone/Data: "CAUTION TELEPHONE LINE BURIED BELOW"
- D. Manufacturer: Seaton, Style No. 210ELE and 210TEL

2.9 EMERGENCY SYSTEM IDENTIFICATION

- A. Furnish markers to identify emergency system transfer switches, generators, switchgear, panelboards, uninterruptible power supply (UPS) systems, safety switches, pull boxes and cabinets as components of the emergency system.
- B. Provide flexible pressure sensitive vinyl voltage markers that conform to OSHA regulations.
- C. Provide markers with 9 inches X 2-1/4 inches orange background and black lettering "EMERGENCY".
- F. Manufacturer: Seaton Name Plate Co, Style No. AA

PART 3 EXECUTION

3.1 GENERAL

- A. Verify electrical equipment designations with FSS-9 through the Contract Administrator.
- B. Clean surface where tag, nameplate marker or label is to be placed, using solvent.
- C. Use manufacturer's recommended adhesive for engraved tags and nameplates.
- D. Place tag, nameplate, marker or label centered and level.
- E. Before energizing equipment, install nameplates identifying the purpose of each disconnecting means.

3.2 INSTALLATION

NOTE: Edit to match project requirements.

- A. Locate equipment code tags and nameplates as shown on Drawings. Install after electrical equipment designations have been approved by FSS-9.
- B. Install outlet labels on switches and receptacle outlets after electrical equipment designations have been approved by FSS-9.
- C. Install wire markers on power, control and communication conductors at panelboards, pull boxes, outlet boxes, junction boxes, switchgear and load connections. Position markers so they can be read from the front of the enclosure.
- D. Install voltage markers at the following locations and position markers so they can be read from floor:
 - 1. Front and rear of each medium-voltage (601 V to 15 kV) switchgear section.
 - 2. Front and rear of each medium-voltage dry-type transformer.
 - 3. Front and rear of each free-standing low-voltage (120 V to 600 V) switchgear or switchboard section.
 - 4. Front of each low-voltage transformer, switchboard, panelboard, motor control center, enclosed circuit breaker, safety switch and starter enclosure.
 - 5. Cover of each pull box or junction box containing medium-voltage or low-voltage conductors.
 - 6. Each 2 inch and larger conduit longer than 6 feet; space markers not more than 20 feet on center.
 - 7. Each busway or wireway longer than 6 feet; space markers not more than 20 feet on center.
- E. Install warning signs at the following locations and position signs so they can be read from floor:
 - 1. Front and rear of each medium-voltage switchgear section.
 - 2. Front and rear of each medium-voltage dry-type transformer section.
 - 3. Front and rear of each low-voltage switchgear or switchboard section.
 - 4. Front of each low-voltage transformer, switchboard, panelboard, motor control center, enclosed circuit breaker, safety switch and starter enclosure.
 - 5. Cover of each pull box or junction box containing medium-voltage or low-voltage conductors.
 - 6. Each busway or wireway longer than 6 feet; space markers not more than 20 feet on center.
- F. Install 2 inch wide white/black floor marking tape spaced 6 inches apart on the floor at the following locations to indicate clear working space required by NFPA 70:

1. Front and rear of each medium-voltage switchgear section.
 2. Front and rear of each medium-voltage dry-type transformer section.
 3. Front and rear of each low-voltage switchgear or switchboard section.
 4. Front of each low-voltage transformer, switchboard, panelboard, motor control center, enclosed circuit breaker, safety switch and starter enclosure.
- G. Install underground warning tape in trench above underground conduit, 1 foot below ground surface.
- H. Install emergency system markers at the following locations and position markers so they can be read from floor:
1. Front and rear of each emergency system free-standing switchgear or switchboard section.
 2. Front of each emergency system low-voltage transformer, switchboard, panelboard, transfer switch, UPS, generator, enclosed circuit breaker, safety switch and starter enclosure.
 3. Cover of each pull box or junction box containing emergency system conductors.
 4. Each 2 inch and larger emergency system conduit longer than 6 feet; space markers not more than 20 feet on center.

END OF SECTION

NOTE TO DESIGNER: The nameplate/code tag schedule on the

Drawings should contain the following information:

1. Nameplate/code tag designation (e.g. "3")
2. Identification of equipment nameplate type or designation as a "code tag".
3. Description of information to be included on nameplate. (e.g.:
CIRCUIT NO: A2-SUSA
SERVES: PP-A
LOCATION: RM 112
VOLTAGE: 480Y/277)
4. Description of information to be included on code tag. (e.g.: TA-48, BLDG. 1 SUS-A).
5. Mounting location(s) for nameplate or code tag or reference to a drawing that indicates the location(s). Describe where on the panelboard, transformer, etc, to mount the nameplate.
